REMARKS

Claims 9-13 are all the claims pending in the application. Claims 1-8 have been canceled. Claims 12-13 have been newly added.

Claim 9 has been amended to incorporate the subject matter of claim 2, which has been canceled. New claim 12 has been added to depend from claim 9, and incorporates the subject matter of claim 3, which has been canceled. New claim 13 has been added to depend from claim 9, and incorporates the subject matter of claim 4, which has been canceled.

Entry of the above amendments is respectfully requested.

I. Response to Rejection of Claims 1-9 under 35 U.S.C. § 103 (a)

Claims 1-9 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over McCormick et al. (6,611,096; "McCormick") in view of Saida et al. (JP11-189746; "Saida").

Applicants respectfully traverse the rejection.

Applicants submit that McCormick does not render obvious the present invention alone or in combination with Saida.

The present invention discloses an organic light emitting device that demonstrates superior light emitting properties by using the conducting self-doped polymer comprising a monomer unit represented by formula (1) or (2) for an anode layer, such as polyisothionaphthene.

Conversely, McCormick describes the use of polyanilines (PAN) in detail as an example of conducting self-doped polymers, teaches that polyanilines are preferred (see column 6, lines 3 to 5) and uses only self-doped polyanilines in its Examples. Although McCormick describes polyisothianaphthenes as an example of conducting self-doped polymers (see column 5, line 64), it does not expressly teach polyisothionaphthenes. In fact, none of the working Examples

of McCormick include polyisothionaphthene as the self-doped polymer for the anode layer. Thus, McCormick fails to teach or suggest the claimed invention.

In addition, Applicants respectfully submit that there is no motivation or suggestion to combine the polymer of Saida with the anode buffer layer of McCormick.

Specifically, Saida teaches mixing a pH adjusting agent in order to impart storage stability to the antistatic treatment agent. Saida also discloses a similar self-doped polyisothianaphthene polymer as disclosed in the present invention. However, there is no description in Saida suggesting that the self-doped polyisothianaphthene polymer can be used for an anode buffer layer of organic light emitting devices, such as in McCormick. Without this teaching or suggestion, one skilled in the art would not be motivated to employ the self-doped polyisothianaphthene polymer of Saida as a substitute for the self-doped conducting PAN polymer of McCormick to thereby improve the maximum luminance, maximum external quantum efficiency and luminance half-time.

In this regard, in the Office Action, the Examiner asserts that it would have been obvious to one of ordinary skill in the art to have employed the coating solution comprising the polymer as taught by Saida with the invention of McCormick, thereby providing an anode buffer layer that is excellent in stability and conductivity. However, in Saida, "stability" refers to the storage stability of the treatment solution used for forming an antistatic film, not the stability of the conducting polymer in the anode buffer layer. As to the improvement of electric conductivity, Saida does not teach that a self-doped polyisothianaphthene polymer exhibits superior results compared to other conductive polymers. Accordingly, because Saida does not suggest that conductivity can be improved and because Saida defines stability in a manner different from the present invention, one of ordinary skill in the would not be motivated to use

the conductive polymer of Saida as a substitute for the conductive polymer as disclosed in McCormick.

Consequently, the most practical embodiment that one of ordinary skill in the art could expect to attain by combining the teachings of McCormick and Saida would be a combination where a pH adjuster is added to the treatment solution for forming an anode buffer layer in the invention of McCormick so as to improve the stability –as defined by Saida– of the solution. Thus, Applicants respectfully submit that one of ordinary skill in the art would not be motivated to combine the teachings of Saida and McCormick.

Further, Applicants submit that the unexpected results of the present invention are derived primarily from the use of the conductive polymer of the present invention, which reduces both the barrier preventing hole migration from the electrode to the anode buffer layer and the barrier preventing hole migration from the anode buffer layer to the light emitting layer. *See* below. Since Saida neither describes nor suggests such effects, one of ordinary skill in the art would not be motivated to combine the polymer of Saida with the device of McCormick.

For at least the above reasons, it is respectfully submitted that a *prima facie* case of obviousness has not been established.

Moreover, the present invention provides unexpectedly superior results. The superiority of organic light emitting devices employing the polymer of presently claimed formula (1) as the anode buffer layer is demonstrated in Table 1 of the present application by comparing Examples 2 and 3 with Comparative Examples 3 and 4.

In particular, Comparative Examples 3 and 4 are similar to Invention Examples 2 and 3 of the present specification, except that the Comparative Examples are comprised of the self-

doping polyaniline anode buffer layer of McCormick, instead of the anode buffer layer of self-doping polyisothianaththene of the present invention.

As can be seen from Table 1 of the present specification, Examples 2 and 3 have maximum luminance, maximum external quantum efficiency, and luminance half-time twice as high as compared to the organic light emitting devices having the anode buffer layer of self-doping polyaniline as disclosed in McCormick (Comparative Examples 3 and 4).

As described in the present specification at pages 2-3, when polyaniline is used as the self-doped polymer in the anode buffer layer, the organic light emitting device is not fit for practical use. Specifically, the conductivity of the polyaniline is approximately 10^{-1} to 10^{-3} S/cm and insufficient for the anode buffer layer, and the polyaniline shows a sufficient conductivity only in a case where an aqueous coating solution of the polyaniline has a high acidity (a pH value of 3 or less).

Therefore, the present invention exhibits superior properties compared to the anode buffer layer disclosed in McCormick.

In view of the above, Applicants submit that McCormick in view of Saida do not disclose or render obvious the subject matter of present claim 9.

In addition, claims 10-11 and new claims 12-13 depend from claim 9, and thus it is respectfully submitted that these claims are patentable for at least the same reasons as claim 9.

In view of the above, withdrawal of the rejection is respectfully requested.

II. Response to Rejection of Claims 10-11 under 35 U.S.C. § 103 (a)

Claims 10-11 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over McCormick, in view of Saida as applied to claims 1-9 above, and further in view of Takeuchi et al. (US 2004/0247934; "Takeuchi").

Applicants respectfully traverse the rejection.

Applicants submit that, as discussed above, the combination of McCormick in view of Saida does not disclose or render obvious the subject matter of present claim 9.

With respect to Takeuchi, Applicants submit that the combination of Takeuchi fails to cure the deficient combination of McCormick and Saida.

Accordingly, claims 10 and 11 depend from claim 9, and thus it is respectfully submitted that these claims are patentable for at least the same reasons as claim 9.

In view of the above, withdrawal of the rejection is respectfully requested.

III. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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Date: July 27, 2009